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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,645	10/04/2006	Peder R. Pedersen	HOI-16102/16	2152
25/006 7590 04/07/2009 GIFTORD, KRASS, SPRINKLE, ANDERSON & CITKOWSKI, P.C PO BOX 7021 TROY, MI 48007-7021				
EXAMINER GREGORY, BERNARR E				
ART UNIT		PAPER NUMBER		
3662				
MAIL DATE		DELIVERY MODE		
04/07/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/599,645

**Applicant(s)**

PEDERSEN ET AL.

**Examiner**

Bernarr E. Gregory

**Art Unit**

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)
- Paper No(s)/Mail Date 10/17/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 37-69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

On lines 6 and 10 of independent claim 37, it is unclear if the "first, second and third CW mixers ..." name the same claimed elements as the "first, second and third FM-CW mixers ...". That is to say, are there three mixers or six mixers? Substantially the same problem occurs on lines 6 and 10 of independent claim 67, on lines 6 and 10 of independent claim 68, and on lines 6 and 10 of independent claim 69.

On line 7 of independent claim 37, it appears that the noun "receiver" must be corrected to be plural in that there are three receivers.

On line 16 of dependent claim 41, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

On line 2 of dependent claim 42, it is unclear in context what is meant by the acronym "MF."

On lines 2 and 4 of dependent claim 43, the uses of "signal(s)" are indefinite in context.

On line 2 of dependent claim 46, the phrase "substantially perpendicular" is indefinite and unclear in context.

On lines 3 and 8 of dependent claim 50, the uses of "signal(s)" are indefinite in context.

On line 6 of dependent claim 50, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

On line 2 of dependent claim 51, it is unclear in context what is meant by the acronym "MF."

On lines 10 and 11 of dependent claim 51, the uses of "signal(s)" are indefinite in context.

On line 2 of dependent claim 52, it is unclear in context what is meant by the acronym "MF."

On lines 13 and 15 of dependent claim 52, the uses of "signal(s)" are indefinite in context.

On line 21 of dependent claim 52, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

On line 4 of dependent claim 63, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

On line 31 of independent claim 67, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

On lines 18 and 23 of independent claim 68, the uses of "signal(s)" are indefinite in context.

On line 21 of independent claim 68, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

On lines 19 and 21 of independent claim 69, the uses of "signal(s)" are indefinite in context.

On line 27 of independent claim 69, the shorthand "and/or" is indefinite and unclear in context. The claim must be written in English, not in shorthand.

Dependent claims 38-66 are unclear at least in that they variously depend from cancelled claims.

3. Claims 37, 67, 68, and 69 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
4. In that each of dependent claims 38-66 are dependent from cancelled claims, it is not possible to indicate potential allowable subject matter for these claims in that the scope of these claims is uncertain.
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The examiner-cited prior art herewith is of general interest for showing the state of the related prior art.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernarr E. Gregory whose telephone number is (571)

272-6972. The examiner can normally be reached on weekdays from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza, can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Bernarr E. Gregory/  
Primary Examiner, Art Unit 3662